Claims

1. A system for communicating the status of output bits from one protective relay to a second protective relay in a power system, wherein the relay output bits are the result of a fault determination calculation process in the one relay which would conventionally be used to set output contacts of said one relay, comprising:

means at the one relay for formatting said output bits into a data packet;

means for directly transmitting said data packet over a communications link to said second relay; and

means at the second relay for receiving said data packet, verifying the validity of said data packet and then utilizing said output bits as input bits in its own fault determination calculation process.

2. An apparatus of claim 1, wherein the communication is between two relays, in both directions, on a power transmission line.

3. An apparatus of claim 1, wherein said one relay is on a power line and communication is in one direction to a second relay located at an upstream portion of the power system.

4. An apparatus of claim 1, including means within the transmitted data packet for verifying the validity of the data in the packet.

5. An apparatus of claim 4, wherein the validity of the data is expressed in the form of an internal bit, which can be used in logic equations performed by the relays.

6. An apparatus of claim 1, wherein the means for transmitting includes a transmit module, and wherein the means for receiving includes a receive module which receives and stores the transmitted data.

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7.   An apparatus of claim 1, including means for programming the individual output and input bits relative to specific relay functions.